

What is claimed is:

1. A magnetic recording medium having a substrate, a magnetic interlayer and a layer of magnetic recording material thereon, the magnetic recording material comprising a plurality of bilayers having Cobalt and a noble metal.
2. The magnetic recording medium as recited in claim 1, wherein the noble metal is palladium.
3. The magnetic recording medium as recited in claim 1, wherein the noble metal is platinum.
4. The magnetic recording medium as recited in claim 1, wherein said plurality of bilayers is comprised of an initial paramagnetic layer and a final recording layer.
5. The magnetic recording medium as recited in claim 4, wherein the initial paramagnetic layer comprises a Cobalt alloy having a thickness of about 0.9 Å and a noble metal layer having a thickness of about 1nm.
6. The magnetic recording medium as recited in claim 4, wherein the final recording layer comprises a Cobalt alloy having a thickness of about 2-6 Å and a noble metal layer having a thickness about 1nm.
7. The magnetic recording medium as recited in claim 6, wherein the final recording layer is further comprised of a laminated structure such that the final recording layer includes about 8-20 alternating layers of the Cobalt alloy and the noble metal.

8. The magnetic recording medium as recited in claim 7, wherein the final recording layer comprises 15 alternating layers of the Cobalt alloy and the noble metal.

9. The magnetic recording medium as recited in claim 5, wherein the final recording layer comprises a Cobalt alloy having a thickness of about 2-6 Å and a noble metal layer having a thickness about 1nm.

10. The magnetic recording medium as recited in claim 5, wherein the initial paramagnetic layer is further comprised of a laminated structure such the initial paramagnetic layer includes about 1-3 alternating layers of the Cobalt alloy and the noble metal.

11. The magnetic recording medium as recited in claim 1, wherein the Cobalt alloy is comprised of Cobalt and one or more of the group consisting of boron, chromium, tantalum, francium, platinum, tungsten, manganese, molybdenum, ruthenium, silicon, nickel, copper, or gold.

12. The magnetic recording medium as recited in claim 1, wherein the Cobalt alloy is comprised of Cobalt and chromium - 40.

13. A magnetic recording medium comprising:  
a substrate;  
a soft magnetic underlayer;  
a paramagnetic layer; and  
a perpendicular recording material including alternating layers of a Cobalt alloy and a noble metal.

14. A magnetic recording medium comprising:
- a substrate;
  - a soft magnetic underlayer; and
  - a graded magnetic recording material including alternating layers of a Cobalt alloy and a noble metal.
15. A magnetic recording medium as recited in claim 14, wherein the graded magnetic material comprises:
- an initial paramagnetic layer having 1-3 layers of the Cobalt alloy, each Cobalt alloy layer having a thickness of about 0.9 Å and each noble metal layer having a thickness of about 1 nm; and
  - a final perpendicular recording material having 8-20 layers of the Cobalt alloy, each Cobalt alloy layer having a thickness of about 2-6 Å and each noble metal layer having a thickness of about 1 nm.
16. A magnetic recording medium as recited in claim 15, wherein the Cobalt alloy is further comprised of Cobalt and chromium 40.
17. A magnetic recording medium as recited in claim 15, wherein the Cobalt alloy is further comprised of Cobalt and boron, chromium, tantalum, francium, platinum, tungsten, manganese, molybdenum, ruthenium, silicon, nickel, copper, or gold.
18. A magnetic recording medium as recited in claim 16 or 17, wherein the noble metal is palladium.

19 A magnetic recording medium as recited in claim 16 or 17, wherein the noble metal is platinum.